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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,181	03/27/2001	Charles A. Miller	FORM 2132 (P129)	3894

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EXAMINER

CHANG, RICK KILTAE

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 02/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,181

Applicant(s)

MILLER, CHARLES A. *CW*

Examiner

Rick K. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 19-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II, Species I, claims 13-18 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that claims 13-18 is generic to both Species A and C. This is not found persuasive because claims 13-18 are generic to Species A, not inclusive of Species C.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. The abstract of the disclosure is objected to because the abstract does not describe a method for fabricating an interconnect system sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claims are objected to because of the following informalities:

Claim 13, line 8: insert —a— after “placing”.

Claim 14, line 2: amend “the” to —a--.

Claim 14, line 3: delete “on”.

Claim 14, line 4: after “that”, amend “the” to —a—.

Claim 15, line 2: amend “the” to —a--.

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Claim 16-18, line 2: amend "on" to -in--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the conductor" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 16-18 recite the limitation "the conductive . . . surface of the semiconductor wafer" in lines 2-4. This limitation renders the claims vague and indefinite. It is misleading that the conductive material on the upper and lower surfaces originates from the conductive material deposited in the hole and extends throughout the upper and lower surfaces. The claims lack positive manipulative steps.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto (US 5,832,600).

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Hashimoto discloses forming, placing and conductively linking steps in Figs. 3A-3C.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 5,832,600).

Re claim 14: Hashimoto discloses cutting the wafer along lines 91 in Figs. 13A-13B.

Hashimoto fails to disclose that these lines are called a horizontal saw-line.

At the time the invention was made, it would have been an obvious matter of design choice to call the lines dicing-line, saw-line, or Michael Jackson-line, since the applicant have not disclosed that calling the lines as disclosed in the invention provides an advantage, solves any stated problem or is for any particular purpose. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with calling the lines as dicing lines or Michael Jackson-lines.

It would have been an obvious matter of design choice to modify Hashimoto to obtain the invention as specified in claim 14.

Re claim 15, as best understood: Hashimoto discloses forming a bond pad (8) conductively linked to the conductor (2).

11. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 5,832,600) in view of Glenn et al (US 6,228,676).

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Hashimoto discloses extending the conductive material on the upper surface (3) and the lower surface (8).

Hashimoto fails to disclose extending the conductive material on the lower surface on the portion of the semiconductor wafer containing the IC.

Glenn discloses extending the conductive material on the lower surface (26) on the portion of the semiconductor wafer containing the IC thereby allowing the IC to be connected to a substrate having bond pads close together.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hashimoto by extending the conductive material on the lower surface (26) on the portion of the semiconductor wafer containing the IC, as taught by Glenn, for the purpose of allowing the IC to be connected to a substrate having bond pads close together.

Conclusion

1. Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (703) 308-4784. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



Rick K. Chang
Examiner
Art Unit 3729

RC
February 13, 2002